USSR UDC 621.376.234

GENKIN, V. N., PISKAREV, V. I., TRIFONOV, B. A., Scientific Research Radio Physics Institute

"Detector Based on n-Type InSb at 77°K"

Gor'kiy, Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika, Vol XV, No 9, 1972, pp 1417-1419

Abstract: A study was made of the detecting properties of n-InSb at a temperature of 77° K. A sample of n-type InSb 0.25 × 0.21 × 0.05 mm^3 ($n = 9.1 \cdot 10^{13}$, $\mu = 7.5 \cdot 10^5$ cm^2/volt-second, T = 77° K) was used as the detector element. The volt-watt sensitivity $K = U/P_c$ (the ratio of the voltage at the modulation frequency to the signal power absorbed in the detector) was investigated by measurements on a frequency of 3 and 150 gigahertz with a modulation frequency of 1,000 hertz. Two characteristic regions are isolated on the curve obtained for the volt-watt sensitivity as a function of the bias. One corresponds to an increase in the resistance with an increase in the field (E < 160 volts/cm), and the other, a drop in the resistance (E > 160 volts/cm). The boundary of value of the field E = 160 volts/cm is the characteristic field for which a significant change in concentration begins in the n-InSb at 77° K [O. Madelung, Fizika poluprovodnikovykh soyedineniy elementov III i V grupp , Mir, Moscow,

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USSR

GENKIN, V. N., et al., Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika, Vol XV, No 9, 1972, pp 1417-1419

1967]. In the first region the detection effect is caused by the dependence of the electron mobility on the field. The maximum volt-watt sensitivity in this region k ~ 10 volts/watt. For the E > 160 volts/cm fields, the detection effect is connected with the dependence of the concentration on the field. The volt-watt sensitivity of the detector does not in practice depend on the signal power or $P_c < P_0$. The limiting sensitivity P_{limit} is estimated at $P_{limit} = 3 \cdot 10^{-11}$ watts in the pre-breakdown region and $P_{limit} = 4 \cdot 10^{-12}$ watts in the post-breakdown region. Thus, the detector is inferior with respect to limiting sensitivity to the detector introduced by A. N. ystavkin, et al. [FTP, Vol 1, No 6, 844, 1967] which operates at a temperature of 4.2° K, but its advantages are the possibility of operating at 77° K and its low inertia.

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1/2 027 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--MULTIPHONON COMBINATIONAL SCATTERING OF LIGHT -U-

AUTHOR--GENKIN, V.M.

G

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL EKSPERIMENTAL'NOY I TEORETICHESKOY FIZIKI, 1970, VOL 58, NR 6, PP 2005-2011
DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--PHONON, SCATTERING CROSS SECTION, ELECTRON ENERGY LEVEL, LIGHT SCATTERING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/2239 STEP NO--UR/0056/70/058/006/2005/2011

CIRC ACCESSION NO--AP0125817
UNCLASSIFIED

2/2 027 UNCLASSIFIED PROCESSING DATE--27NOV70
CIRC ACCESSION NO--AP0125817
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MULTIPHONON COMBIATIONAL SCATTERING OF LIGHT BY LONGITUDINAL OPTICAL PHONONS IS CONSIDERED FOR THE CASE WHEN THE PHOTON FREQUENCY IS CLOSE TO THE WIDTH OF THE FORBIDDEN ZONE. EITHER EXCITON LEVELS OR IMPURITY ELECTRON LEVELS (DONOR IMPURITY) ARE CONSIDERED AS INTERMEDIATE STATES. THE SCATTERING CRSSS SECTION IS CALCULATED. IT IS SHOWN THAT IF THE EXCITON LEVELS ARE TAKEN INTO ACCOUNT AS INTERMEDIATE STATES THE RAMAN SCATTERING CROSS SECTION DEPENDS ON PARITY OF THE SCATTERING ORDER. IF IMPURITY LEVELS ARE TAKEN INTO ACCOUNT AS INTERMEDIATE STATES THE RAMAN CROSS SECTION DOES NOT DEPEND ON PARITY OF THE SCATTERING ORDER. FACILITY: RADIOFIZICHESKIY INSTITUT GOR'KOVSKOGO GOS. UNIV.

UNCLASSIFIED

UDC 535.343

USSR

BREDIKhIN, V. I., GALANIN, M. D., and GENKIN, V. N.

"Two-Photon Absorption and Spectroscopy"

Moscow, Uspekhi Fizicheskikh Nauk, Vol 110, No 1, May 73, pp 3 - 43

Abstract: This survey is devoted to theoretical and experimental studies of two-photon absorption in various media and its role in the spectroscopy of molecules, molecular crystals, and semiconductors. Chapter 2 contains a general analysis of an approximate description (considering two or several levels or zones of two-quantum transitions). It is shown that when considering two-quantum absorption it is more convenient to use the energy of interaction with the field E in the form (dE), where d is the dipole moment. Chapter 3 describes an experimental method used in measuring the values and spectra of two-photon absorption and an analysis of the characteristics of a two-photon absorption experiment in various media. Chapter 4 contains a discussion of the nature of two-photon molecular and molecular crystal spectra. It is shown that two-quantum transitions are of an electron-oscillatory nature. A detailed comparison is made between the theory given and experiments available in the literature. The last chapter contains a discussion of two-photon absorption in semiconductors and ionic crystals.

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USSR

BREDIKhIN, V. I., et al., Uspekhi Fizicheskikh Nauk, Vol 110, No 1, May 73, pp 3-43

The theory is compared with experimental results. On the basis of experimental data, it is demonstrated that two-photon absorption in $A_{II}B_{VI}$, $A_{III}B_{V}$, and and $A_{IV}B_{IV}$ semiconductors can be described in basic outlines in a single way in the two-zone model. One table, 14 illustrations, 182 bibliographic sources.

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6

USSR UDC 669.721.372

ZUYEV, N. M., IVANOV, A. B., VUKOLOV, V. V., SVALOV, G. N., IRTEGOV, N. N., GENKIN, Ya. N., AGALAKOV, V. A., SHCHELKONOGOV, A. A., SAZONOV, V. F., and KIRILENKO, I. S.

"Flow Line for Magnesium Production"

Moscow, Tsvetnyye Metally, No 9, Sep 71, pp 36-37

Abstract: An experimental-industrial flow line which uses smelted carnallite as the raw material for the production of magnesium has been established at a Soviet plant. The operation of the flow line is described by reference to a diagram and the distribution of slime (with 20% MgO) by electrolyzers showing the maximum output of slime (up to 60% of its total amount) on the first 3-4 electrolyzers. It is shown that the centralized feeding of diaphragm-type electrolyzers provides a 3-4% increase of magnesium output. To maintain normal temperature conditions and compensate for heat lossss, it is necessary to provide for an increase of current intensity and electrolyzer output by 10-12%, in comparison with electrolyzers with individual feeding. Two illustr., three biblio. refs.

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USSR

UDC 669.721.472

GENKIN, Ya. N., P'YANKOV, V. A.

"System for Automatic Testing of Technological Parameters of Magnesium Electrolyzers"

Tr. Vses. N.-i. i Proekt. In-ta Alyumin., Magn. i Elektrod. Prom-sti [Works of All-Union Scientific Research and Planning Institute for the Aluminum, Magnesium and Electrode Industry], No 79, 1971, pp 137-143, (Translated from Referativnyy Zhurnal, Metallurgiya, No 5, 1972, Abstract No 5 G252 by G. Svodtseva).

Translation: An installation for automatic centralized testing (ACT) of the technological process of Mg electrolysis has been developed and introduced at one magnesium plant. The ACT installation includes systems for automatic measurement and recording of the current and voltage across electrolyzers and the temperature of the electrolyte, as well as the rarefaction in the anode and cathode evacuation systems. Use of the ACT system allowed the technological modes of operation of the magnesium electrolyzers to be improved: the number of disruptions of the temperature mode was decreased by 5-7 times, overheating of electrolyzers to above 730° was reduced from the earlier figure of 20-25%, more precise and timely regulation of the electrolyzers became possible. The yield per current was increased by 2%; the specific consumption of electric power decreased by 500-600 kw·hr/t Mg.

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USSR

UDC 669.721.472

ZUYEV, N. M., IVANOV, A. B., VUKOLOV, V. V., GENKIN, Ya. N., SHARUNOVA, G. M., SVALOV, G. N.

"Development of a Continuous Technology for Production of Magnesium"

Tr. Vses. N-i. i Proyektn. In-ta. Alyumin., Magn. i Elektrodn. Prom-sti [Works of All-Union Scientific Research and Planning Institute of the Aluminum, Magnesium and Electrode Industry], 1970, No. 72, pp. 48-55. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5, 1971, Abstract No. 5 G196 by the authors).

Translation: Results are presented from combined studies for the development of technology and equipment for production of Mg by electrolysis in a continuous system. This technology calls for a combination of the ordinary individually operating units into a single technological line with centralized charging of raw material, transmission of melt and Mg produced from unit to unit, and centralized removal of electrolysis products. The investigations established the influence of the continuous method of production of Mg on such technological indicators as the yield of Mg per unit current, the specific dc electric power consumption, the quantity of slime removed, etc; the specific features of operation of the equipment were determined. Testing of the technology and equipment for the continuous line was performed on laboratory, large-laboratory, and pilot-plant scales, demonstrating the possibility and promise of the new technological plan.

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USSR

UDC 669.7/.8.472(088.8)

AGALAKOV, V. A., VUKOLOV, V. V., GENKIN, YA. N., ZUYEV, N. M., IVANOV, A. B., KLABUKOVA, G. I., LUK'YANOVA, YU. V., PAVLOVA, S. A., SVALOV, G. N., SHARUNOVA, G. M., and YUMASHEV, V. D., Bereznikovskiy Titanium-Magnesium Combine, All-Union Scientific Research and Design Institute of the Aluminum, Magnesium and Electrode Industry

"Vacuum Ladle For Transporting and Proportioning Melted Salts"

USSR Author's Certificate No 255581, filed 7 Mar 67, published 30 Mar 70 (from RZh-Metallurgiya, No 11, No 70, Abstract No 11 G85 P)

Translation: A vacuum ladle is proposed for transporting and proportioning melted salts. The device is made in the form of a thermostat into which is placed a heating crucible with two tap holes with closing devices. To ensure continuous operation of the vacuum ladle and accurate proportioning of the melt, the vacuum ladle is equipped with contact units which control the level of melt in the batcher. The contact units are installed at different levels and are connected to a device which records the stability of the electrolyte level.

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USSR

UDC 548.733

KORSUNSKIY, M. I., GENKIN, YA. YE., and ANDRYUSHIN, V. N.

"Short-Wave X-Ray Spectrometer for Bragg Angles Ranging From 0 to 43°"

Alma-Ata, Izvestiya Akademii Nauk Kazakhskoy SSR, Seriya Fiziko-Matematicheskaya, No 6, Nov-Dec 72, pp 82-83

Abstract: In order to study X-ray K-spectra in a wide range of angles, the authors designed and made an X-ray spectrometer which can be used at Bragg angles ranging up to 43°. The distinguishing feature of the spectrometer is the fact that the gearing used to provide the counter position on the Rowland circle necessary for the focusing conditions represents a link motion in the form of a rhombus. The $K\beta\frac{I,II}{2}$ and $K\beta\frac{I,II}{4}$ lines of molybdenum taken on the described spectrometer in the fourth order of reflection are given as an illustration.

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USSR

KORSUNSKIY, M. I.; GENKIN, Ya. Ye.; MUZYCHUK, R. V.

"Multiple Character of the Spectra of the Characteristic Electron Energy Loss in Transition Metals of the Yttrium-Palladium Series"

Alma-Ata, Izvestiya Akademii Nauk Kazakhskoy SSR: Seriya Fiziko-Matematicheskaya; November-December, 1972; pp 6-13

ABSTRACT: The shapes of the spectra of the characteristic electron energy losses during reflection from large samples of metals of the yttrium-palladium series were determined. The calculations were made on the assumption that the most probable types of characteristic electron energy loss in the kilovolt range are one type of energy loss by surface excitation and three by internal excitation. The parameters of the first inelastic peaks of all four types of characteristic electron energy loss for which the calculated spectra agree satisfactorily with the experimental ones were determined.

The energy losses at the surface of a sample are related to the excitation of surface plasmons. The first and second types of internal losses are related to the excitations of the plasma of the collective electrons and collective excitations of the locally bound electrons respectively. The question of the authenticity and nature of the third type of internal loss is discussed.

The article includes two figures and two tables. There are 16 references.

USSR

UDC 539.26

KORSUNSKIY, M. I., GENKIN, YA. YE., ZHURAKOVSKIY, YE. A., and LIFSHITS, V. G.

"X-Ray L_{β_2} Band of Niobium and K_{α} Band of Carbon in the Compound NbC"

Alma-Ata, Izvestiya Akademii Nauk Kazakhskoy SSR, Seriya Fiziko-Matematicheskaya, No 4, Jul-Aug 72, pp 68-70

Abstract: The purpose of the article was to study the L and K spectra of Nb and C respectively in Nb-C system alloys and interpret them from the standpoint of the partial collectivization of valence electrons. The L_{β_2} band of Nb and K_{α} band of C in niobium monocarbide are broken down into components subject to the rigid requirements of the CLC model on the equality of the general energy parameters of both bands. Ideas about collective, locally bonding, and core electrons are used to interpret the emission bands of niobium and carbon. Band shape distortions are taken into consideration and the parameters of the parts of these bands that reflect electron states are determined. The widths of the short-wave parts of the L_{β_2} band of niobium and

USSR

KORSUNSKIY, M. I., et al., Izvestiya Akademii Nauk Kazakhskoy SSR, Seriya Fiziko-Matematicheskaya, No 4, Jul-Aug 72, pp 68-70

K_{α} band of carbon are 4.2 ± 0.3 ev, which in the free electron approximation corresponds to a collectivization of $\sim 0.86 \pm 0.05$ electron per total volume of niobium and carbon atoms in the alloy.

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USSR

KORSUNSKIY, M. I., Academician of the Academy of Sciences of the Kazakh SSR, GENKIN, Ya. Ye., ZAVODINSKIY, V. G., Institute of Nuclear Physics of the Academy of Sciences of the Kazakh SSR, Alma-Ata

"On the Critical Temperature of Superconductivity of Transition Metals of the Yttrium-Palladium Series"

Moscow, Doklady Akademii Nauk SSSR, Vol 204, No 5, Jun 72, pp 1081-1083

Abstract: In a previous paper (Fizika Tverdogo Tela, Vol 13, 1971, p 1241) the authors proposed a model which they call the KLO model from the first letters of the Russian words for "collectivized", "locally binding" and "core" (valence electrons). Successful application of this model to calculation of the phonon spectrum of niobium led the authors to the work covered in this paper, i. e. estimation of the absolute values of the parameters of superconductivity of transition metals in the yttrium-palladium series. Formulas are given for the critical temperature as a function of the parameter of electron-phonon interaction λ, and for λ as a function of the number of collectivized electrons. A comparison with experimental data shows excellent agreement.

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USSR

KORSUNSKIY, M. I., GENKIN, Ya. Ye., ZAVODINSKIY, V. G.

"Theory of Characteristic Energy Losses in Transition Metals"

Leningrad, Fizika Tverdogo Tela, Vol 13, No 10, Oct 71, pp 3043-3048

Abstract: The interaction of quasioptical phonons with collectivized electrons is investigated, the form of the corresponding peak in the spectrum of the characteristic energy losses is discussed, and the effect of crystal deformation on the frequency of the quasioptical oscillations is considered. All these subjects are examined on the basis of a model of collectivized, locally bonded, and shell electrons, proposed specifically to explain the mechanism of the collective excitation of locally bonded electrons forming the electronic sublattice. This model was originally proposed in an earlier article by the above-named authors in the above-named journal (12, 1970, p 3047) when attempts to explain the spectra of the characteristic losses in transition metals using con-

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USSR

KORSUNSKIY, M. I. et al, Fizika Tverdogo Tela, Vol 13, No 10, Oct 71, pp 3043-3048

cepts of plasma oscillations in solids failed. In the present article, the authors begin their analysis with the Hamiltonian of the interaction of the collectivized electron with the lattice of the locally bonded electrons, the exchange effects being neglected. The authors are connected with the Institute of Nuclear Physics, Academy of Sciences, Kaz. SSR, Alma-Ata.

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USSR

UDC 66.017

KORSUNSKIY, M. I., GENKIN, Ya. Ye., and OMAROV, M. M.

"X-Ray L-Spectra of Niobium and the Electron Structure of the Compound Nb_3Sn"

Problemy Sverkhprovodyashchikh Materialov [Problems of Superconducting Materials -- Collection of Works], Moscow, Nauka Press, 1970, pp 89-91

Translation: The X-ray emission L-spectra of niobium in the compound Nb_3Sn are studied. The X-ray spectral data produced are used in forming conclusions about the electron structure of the alloy Nb_3Sn. It is established that in the region of the Fermi boundary, the weight of the d-states in the wave functions of collectivized electrons is near unity. The width of the energy zone of collectivized electrons is on the order of 7 ev, corresponding to a concentration of $\sim 1.6 \pm 0.2$ almost-free electrons per atom of the alloy. The weight of p-states in the wave functions of electrons creating local bonds is great, and there is an admixture of d-states. The authors believe that this facilitates the formation of directed chain bonds between niobium atoms.

1 figure; 5 biblio. refs.

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UDC 538.21

USSR

KORSUNSKIY, M. I., GENKIN, Ya. Ye., LARIN, M. P., and MILOVANOVA, I. A.

"Magnetic Properties of Alloys of the Nb-Mo System"

Alma-Ata, Akademii Nauk Kazakhskoy SSR -- Seriya Fiziko-Matematicheskaya, No 2, March-April 1971, pp 40-43

Abstract: Experimental measurements of the magnetic susceptibility of pure metals and alloys of the Nb-Mo system at 20°C and -196°C are presented. The magnetic susceptibility of these metals and alloys decreases by 2.8 times with a decrease in the Nb concentration from 100 to 37%.

On varying the temperature from 20° to -196°C the magnetic susceptibility of pure Nb increases by approximately 4%, and that of pure Mo decreases by approximately 4%. Beginning with a Nb concentration of ~70%, the magnetic susceptibility decreases as the temperature drops. At an Nb concentration of 37%, the susceptibility decreases by 80%.

The experimental values of the magnetic susceptibility were compared with experimental data for the electronic heat capacity for alloys of the Nb-Mo

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USSR

KORSUNSKIY, M. I., et al, Akademii Nauk Kazakhskoy SSR -- Seriya Fiziko-Matematicheskaya, No. 2, March-April 1971, pp 40-43

system. The ratio of the magnetic susceptibility to the heat capacity, which is independent of the density of states, was found to be a function of concentration and temperature.

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AA0040761 G Genkin, Yu. M.

UR 0482

Soviet Inventions Illustrated, Section I Chemical, Derwent, 1-76

241094 CHROMATOGRAPH for gas impurities analysis, consisting of the enrichment column unit; measuring unit with a recording instrument; thermal conduction detector; recording potentiometer and a power pack with a control unit. The enrichment column unit comprises an electric motor with a drive electric heater; chromatographic column; a liquid nitrogen tank. This unit serves to enrich and separate the analysed impurities. The measurement unit records the isolated impurities, and the potentiometer records the analysis results.

Gas from the tested cylinder (10) flows through a reducing valve (11), input adjusting valve (12) and rotameter (13) to the detector comparator cell. The gas pressure is controlled by a pressure gauge at the reducing valve. Then the gas flows to the chromatographic column and from there to the detector working chamber and through the outlet control valve (14) escapes into the air. A gas meter can be placed after the outlet valve. The control valve (15) is used for blowing out. The

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residual pressure is controlled by the pressure gauge (16). All gas pipes are metal capillary tubes. Some of them are flexible.

The chromatographic column is in form of a coiled copper tube filled with a sorbent, e.g. with molecular sieves 13X. The column can be moved from a liquid nitrogen bath to a heater and back again. Thus a variable temperature field from -196 to 300°C moves along the sorbent layer.

2.1.64 as 873985/26-25. GENKIN,Yu.M.et alia: EXPERIMENTAL FACTORY OF THE INST OF NATURAL GAS. (12.8.69.) Bul 13/1.4.69. Class 421. Int.Cl.G 01n.

AUTHORS: Genkin, Yu. M.; Shevelev, B. P.; Sidorov, A. P.; Podol'skaya, Ye. V.; Maksimov, P. K.; and Estrin, V. N.

Opytnyy Zavod Vsesoyuznogo Nauchno - Issledovatel'skogo Instituta Prirodnogo Gaza

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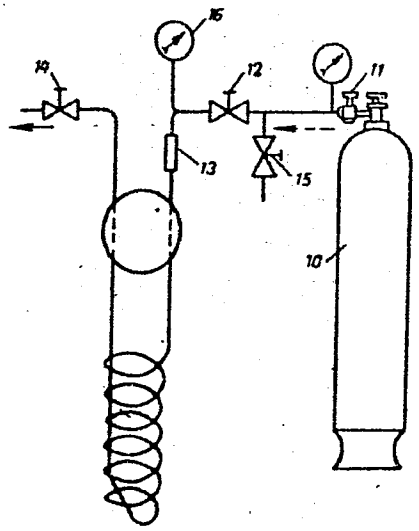

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USSR

UDC 547.26'418

GENKINA, G. K., KOROLEV, B. A., GILYAROV, V. A. and KARACHNIK, M. I., Institute of Metalloorganic Compounds, Academy of Sciences USSR, and All-Union Scientific Research Institute of Organic Intermediates and Dyes

"Basicity of Some Phosphorus Acid Imides"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 1, Jan 71, pp 80-84

Abstract: The authors determined the basicity of a series of phosphorus acid imides of the type XYZP = NC_6H_4R (R = H, p-F; X, Y, Z = Alk, AlkO, Ar, NR_2) by potentiometric titration in nitromethane with perchloric acid and studied the effect of substituents at the phosphorus atom on the strength of these substances as bases. The pK_a values of the investigated phosphorus acid imides show that they are all strong bases (pK_a from 13.4 to 19.7). The values depend on the nature of the substituents X, Y and Z, they obey the Hammett equation, using the constants $\sigma\varphi$ of the groups X, Y. Z.

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USSR

UDC 541.454 : 546 : 185

GENKINA, G. K., GILYAROV, V. A., MATROSOV, YE. I., and KABACHNIK, M. I., Institute of Organoelemental Compounds, Academy of Sciences USSR

"Study of Imide-Amide Rearrangement of Some Phosphorus Acid Imides Under the Action of Alkyl Halides"

Leningrad, Zhurnal Obshchey Khimii, Vol 40, No 7, Jul 70, pp 1496-1501

Abstract: The authors made a kinetic study of the imide-amide rearrangement of imides of phosphorus acids under the action of ethyl iodide in acetonitrile at 50° and its dependence on the character of the substituents at the phosphorus atom. It was found that the rearrangement rate strongly depends on the substituents. There is a linear correlation between the logarithms of the rearrangement rate constants and $\Sigma \sigma_p$ of the substituents at the phosphorus atom.

Some imides of phosphorus acids of the general type $AB(C_2H_5O)P{=}NC_6H_5$

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USSR

GENKINA, G. K., et al., Zhurnal Obshchey Khimii, Vol 40, No 7, Jul 70, pp 1496-1501

and amides of phosphorus atoms of the general type $ABP(O)N(C_2H_5)C_6H_5$ were synthesized. Chromatographic analysis was performed by S. YE. CHESNOKOVA and IR spectra taken by B. S. CHIKIL'DIN and M. I. VOLKOVA.

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1/2 015 UNCLASSIFIED PROCESSING DATE--02OCT70
TITLE--HYDROGENATION OF M AND P-PHENYLENEDIAMINES ON RUTHENIUM DIOXIDE -U-

AUTHOR-(05)-GENKINA, YE.V., MALIMONOVA, A.B., MEDVEDEVA, I.M., ZENKINA, N.G., RYZHENKO, L.M.
COUNTRY OF INFO--USSR

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SOURCE--ZH. VSES. KHIM. OBSHCHEST. 1970, 15(1) 118

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CATALYTIC HYDROGENATION, GAS CHROMATOGRAPHY, ANILINE, CYCLOHEXANE, PHENYLENE, DIAMINE, RUTHENIUM COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/1412 STEP NO--UR/0063/70/015/001/0118/0118

CIRC ACCESSION NO--AP0112406
UNCLASSIFIED

2/2 015 UNCLASSIFIED PROCESSING DATE--02OCT70
CIRC ACCESSION NO--AP0112406
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HYDROGENATION OF M AND P-C SUB6 H SUB4 (NH SUB2) SUB2 AT 100-800DEGREES-180-200 IN MEOH OR DIOXANE OVER RUO SUB2 AND EXAMN. OF THE PRODUCT BY GAS CHROMATOG. WAS REPORTED. ALONG WITH 1,3 AND 1,4,DIAMINOCYCLOHEXANE, THE REACTION GAVE PHNH SUB2 AND CYCLOHEXYLAMINE, WHICH PROVED THAT A PARTIAL DEAMINATION TOOK PLACE EVEN AT 100-20DEGREES. THE YIELD OF PHNH SUB2 WAS 10-15PERCENT AND THAT OF CYCLOHEXYLAMINE 1-2PERCENT.

UNCLASSIFIED

1/2 007 UNCLASSIFIED PROCESSING DATE--11DEC70

TITLE--SYNTHESIS OF ENANTHOLACTAM BASED ON CYCLOPENTADIENE -U-

AUTHOR-(05)-ARTEMYEV, A.A., GENKINA, YE.V., GOLOVKIN, G.V., KONONOV, N.E., MALINOVA, A.B.

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(5), 1137-40

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--LACTAM, CYCLIC GROUP, HEPTANE, AROMATIC KETONE, OXIME

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY FICHE NO----FD70/605001/E04 STEP NO--UR/0080/70/043/005/1137/1140

CIRC ACCESSION NO--AP0139368

UNCLASSIFIED

2/2 007 UNCLASSIFIED PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0139368

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE MONOMER (I) WAS PREPD. BY A SERIES OF REACTIONS FROM CYCLOPENTADIENE (II). THUS, II WAS CONDENSED WITH C SUB2 H SUB2 AT 420DEGREES AND 2 ATM, THE RESULTANT CYCLOHEPTATRIENE HYDROGENATED CATALYTICALLY AT 25DEGREES, AND THE CYCLOHEPTANE PRODUCED WAS TREATED WITH NOCL PLUS HCL IN THE PRESENCE OF LIGHT, AND FINALLY THE CYCLOHEPTANONE OXIME HYDROCHLORIDE WAS ISOMERIZED TO I (IN 85-90PERCENT YIELD) AT 120-30DEGREES IN THE PRESENCE OF H SUB2 SO SUB4. FACILITY: GOS. NAUCH.-ISSLED. PROEKT. INST. AZOTN. PROM. PROD. ORG. SIN., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 621.385.2.032.21

POSHEKHONOV, P. V., NOSOV, A. A., POSHEKHONOVA, T. A., GENNAD'YEV, V. M.

"A Cold Cathode Based on Single-Crystal Whiskers"

Moscow, Radiotekhnika i Elektronika, Vol 16, No 7, Jul 71, pp 1250-1253

Abstract: A multipointed autoelectronic cathode is developed with a working surface made up of single-crystal whiskers formed on a flat field by condensation of a material from the vapor phase. It is found that gold and nickel crystals from the densest groups of whiskers when condensed from the vapor phase. Preliminary results are given from tests of cathode specimens. It is expected that when it becomes possible to test these cathodes with a voltage pulse duration of 10-15 ns, a high level of working current and stability of operation over long periods will be achieved.

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1/2 023 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--EFFECT OF TEST CONDITIONS ON A COMPARATIVE EVALUATION OF THE WEAR RESISTANCE OF TIRES -U-

AUTHOR-(04)-GENNIKH, M.E., GUSLITSER, R.L., ZAKHAROV, S.P., MISHNEV, G.V.

COUNTRY OF INFO--USSR

SOURCE--KAUCH. REZINA, 1970, 29(3), 38-41

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--MOTOR VEHICLE TIRE, WEAR RESISTANCE, TEST METHOD

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0836 STEP NO--UR/0138/70/029/003/0038/0041

CIRC ACCESSION NO--AP0124503

UNCLASSIFIED

2/2 023 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0124503
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AUTOMOBILE TIRES WERE TRACK TESTED TO DEVELOP A RELIABLE METHOD FOR EVALUATING THEIR WEAR RESISTANCE. SEVERAL RECOMMENDATIONS WERE GIVEN. FACILITY: NAUCH.-ISSLED. INST. SHINNOI PROM., MOSCOW, USSR.

UNCLASSIFIED

Veterinary Medicine

USSR

UDC 576.858.5.097.2

SYRTMADZHIYEV, KR., and GENOV, I., Veterinary Institute of Bacterial and Parasitic Diseases, Sofia

"A Study of Type-Specific Antigens of Adenoviruses Isolated From Cattle by the Fluorescence Technique"

Moscow, Voprosy Virusologii, No 6, Nov/Dec 71, pp 676-679

Abstract: Type-specific antigens of adenovrius types 1, 2, 3, 4, 5, 6, isolated from cattle and grown in calf kidney cell cultures, were investigated by the immunofluorescence technique and complement fixation tests. Both homologous and heterologous adenovirus hyperimmune sera specific for the individual serological groups yielded positive cross immunofluorescent reactions with all adenovrius types 1 through 6. Up to 50% of the cells became fluroescent in about 3 days, showing that the virus antigens were located mainly inside the nuclei and only occasionally around the nuclei. Complement fixation tests were also positive with both homologous and heterologous antisera. It was concluded that the immunofluorescence method can be used for a quick diagnosis and group differentiation of adenovirus strains.

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USSR

SIMONOV, V. D., GERASIMOVA, A. I., POLUEKTOVA, Z. M., et al.,

"Analytical Method for the Reaction Mixture of the Condensation Stage in Production of Phenoxyacetic Acid"

V sb Khim. sredstva zashchity rast. (Chemical Plant Protective Agents) Moscow vyp 3, 1973, pp 144-148 (from RZh-Khimiya, No 20, Oct 73, Abstract No 20N520)

Translation: The quantitative determination method for phenol (I) and phenoxyacetic acid (II) is based on potentiometric titration in a nonaqueous medium. Initially I and II are extracted from the reaction mixture by a solvent mixture of Et_2O and dibutylphtallate (85:15). DMFA was the best solvent for the titration, the titrating agent consisted of 0.1 N solution of tetraethylammonium hydroxide in isopropyl alcohol. A blank run performed under analogous conditions determined the content of free amines present in DMFA. The relative error in determining II in artificial mixtures is ± 1%, of the phenol + 7%.

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1/2 030 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--IRON, COPPER AND COBALT METABOLISM IN THE ORGANISM OF DOGS FOLLOWING EXTENSIVE RESECTION OF THE SMALL INTESTINE -U-
AUTHOR-(02)-SENYUTOVICH, V.F., GENYK, S.N.

COUNTRY OF INFO--USSR

SOURCE--PATOLOGICHESKAYA FIZIOLOGIYA I EKSPERIMENTAL'NAYA TERAPIYA, 1970, VOL 14, NR 3, PP 51-55
DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--SMALL INTESTINE, SURGERY, IRON, COPPER, COBALT, METABOLSIM, DOG, BODY WEIGHT, TRANSFERRIN, ANEMIA

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/0627 STEP NO--UR/0396/70/014/003/0051/0055

CIRC ACCESSION NO--AP0128167
UNCLASSIFIED

2/2 030 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0128167

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIRTY FIVE DOGS WERE SUBJECTED TO EXTENSIVE RESECTION OF THE SMALL INTESTINE (WITH ENTEROENTERO, ENTEROCO, AND ENTEROTRANSVERSOANATOMOSES). AT THE EARLY AND REMOTE PERIODS AFTER THIS OPERATION A STUDY WAS MADE OF THE QUANTITATIVE CONTENT OF FE, CU AND CO IN THE BLOOD, ORGANS AND TISSUES; AND ALSO OF THE ACTIVITY OF CERULOPLASMIN AND TRANSFERRIN; THESE DAWERE CONFRONTED WITH THE CHANGES IN THE BLOOD PICTURE. RAPID AND ACUTE REDUCTION IN THE WEIGHT, HYPOPROTEINEMIA, HYPOCHROMIC ANEMIA, REDUCTION IN FE, CU AND CO CONTENT, AND ALSO DIMINISHED ACTIVITY OF CERULOPLASMIN AND OF IRON SATURATION OF TRANSFERRIN OF THE BLOOD PLASMA DURING THE MORE REMOTE POSTOPERATIVE PERIOD CORRESPONDED TO A MARKED CHANGE OF FE, CU AND CO CONTENT IN THE ORGANS AND TISSUES OF EXPERIMENTAL ANIMALS. PARTICULARLY PRONOUNCED DISTURBANCES WERE NOTED IN THE ANIMALS AFTER EXTENSIVE RESECTION OF THE SMALL INTESTINE WITH ENTEROTRANSVERSOANASTOMOSIS. IT IS APPARENT THAT FOLLOWING EXTENSIVE RESECTION OF THE SMALL INTESTINE WITH ANASTOMOSIS WHICH EXCLUDED THE ILEOCECALPORTION FROM THE NORMAL ACTIVITY THERE OCCURRED A DISTURBANCE OF FE, CU AND CO ABSORPTION FROM THE GASTROINTESTINAL TRACT, WHICH WAS ACCOMPANIED BY DEVELOPMENT OF VARIOUS ANEMIAS, OF HYPOCHROMIC TYPE IN PARTICULAR. FACILITY: KAFEDRA MEDITSINSKOY KHIMII KAFEDRA GOSPITAL'NOY KHIRURGII KAFEDRA PATOLOGICHESKOY FIZIOLOGII IVANO-FRANKOVSKOGO MEDITSINKOGO INSTITUTA.

UNCLASSIFIED

USSR

UDC 621.396.67:624.97(088.8)

GENZE, B. G., KUTMIN, I. F., LESKOV, V. P.

"Telescopic Mast"

USSR Author's Certificate No 251028, Filed 26 Jan 68, Published 11 Feb 70 (from RZh-Radiotekhnika, No 9, Sep 70, Abstract No 9B83P)

Translation: The proposed mast contains blocking locks and a cable lift mechanism. The trunk of the mast is made of several sections inserted one in the other and moved by a cable. The blocking locks contain a lever which turns on a rod installed in the lower part of the movable sections. On winding the cable on a drum, the lower movable section begins to move out of the stationary (support) section. Each next moving section moves out only after the preceding section reaches its upper position and its lever is deflected toward the opening and frees the stem located inside the section. The lever deflected to the opening is stopped by a moving sleeve which moves out under the effect of a spring. As the sections move out, preliminary guying of them takes place. Final tension is put on the guys by retainers. The sections are lowered in the opposite sequence by winding the cable on a drum. The mast has improved reliability of setting of the sections. There are three illustrations.

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USSR

UDC: 8.74

GEODAKYAN, V. A.

"Concerning the Structure of Evolving Systems"

V sb. Probl. kibernetiki (Problems of Cybernetics--collection of works), vyp. 25, Moscow, "Nauka", 1972, pp 81-92 (from RZh-Kibernetika, No 6, Jun 72, Abstract No 6V595)

Translation: All self-reproducing systems from nucleoprotein to a population of organisms consist of two conjugated subsystems. In a population these are the two sexes, and in the organism they are the two types of cells: sex cells and somatic cells. In the cell these two subsystems are the nucleus and the cytoplasm, in the nucleus they are the autosomes and the sex chromosomes, and in nucleoprotein they are DNA (RNA) and protein. The idea is expressed that such differentiation is a form of specialization in accordance with two basic principles of evolution: conservatism and change. This differentiation is based on the nature of interaction with the environment. On each level of organization, one of the subsystems (the internal one) is more conservative and protected from the environment (the female sex, gametes, the cell nucleus, autosomes, DNA), personifying the evolu-

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USSR

GEODAKYAN, V. A., Probl. kibernetiki, vyp. 25, Moscow, "Nauka", 1972, pp 81-92

tionary trend of conservatism. The other subsystem (the external one) -- more labile, more intimately related to the environment (the male sex, the somatic cells, cytoplasm, sex chromosomes, proteins) represents the tendency of change. This kind of separation between the "permanent" memory and the immediate access memory improves the evolutionary stability of tracking systems. Bibliography of 14 titles.

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1/2 024 UNCLASSIFIED PROCESSING DATE--090CT70

TITLE--SEX AND CONGENITAL DISEASES OF THE HEART -U-

AUTHOR-(02)-GEODAKYAN, V.A., SHERMAN, A.L.

COUNTRY OF INFO--USSR

SOURCE--EKSPERIMENTAL'NAYA KHIRURGIYA I ANESTEZIOLOGIYA, 1970, NR 2, PP 18-23

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HEART DISEASE, REPRODUCTIVE SYSTEM, DIAGNOSTIC MEDICINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/0195 STEP NO--UR/0481/70/000/002/0018/0023

CIRC ACCESSION NO--AP0108519

UNCLASSIFIED

2/2 024 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0108519

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ON THE STRENGTH OF CONCEPTIONS OF THE BIOLOGICAL ROLE OF SEXUAL DIFFERENTIATION IN THE EVOLUTIONARY CHANGES OF POPULATIONS A HYPOTHESIS IS ADVANCED ON THE RATIO OF SEXES WITH CONGENITAL DISEASES OF THE HEART AND MAJOR BLOOD VESSELS. ACCORDING TO THIS HYPOTHESIS DEFECTS FROM WHICH SUFFER MOSTLY MALE PATIENTS ARE ACQUIRED, UNFAVOURABLE TESTS OF EVOLUTION, DEFECTS OF FEMALES ARE MOSTLY RETURN TO ONTO AND PHILOGENETIC PAST. STATISTICAL MATERIAL, OVER 26,000 CASES WITH 22 CONGENITAL HEART DEFECTS, CONFIRM ALMOST COMPLETELY THE ABOVE HYPOTHESIS. THIS HYPOTHESIS PERMITS TO EXPLAIN FACTS WHICH DID NOT COINCIDE WITH THE ACCEPTECTED CONCEPTIONS OF GENESIS OF CONGENITAL HEART DEFECTS BY ROKITANSKY, SPITZER, L. D. KRYMSKY. AN APPLIED ASPECT OF CONCEPTIONS, THE SIGNIFICANCE OF SEX AS A DIGNOSTIC SIGN OF CONGENITAL HEART DEFECTS IS DISCUSSED.

FACILITY: INSTITUT OBSHCHEY GENETIKI AN SSSR AND INSTITUT KHIRURGII IM. A. V. VISHNEVSKOGO AMN SSSR, MOSCOW.

UNCLASSIFIED

1/3 011 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--GEOCHEMICAL INVESTIGATIONS OF THE SEAS AND OCEANS -U-

AUTHOR--GEODEKYAN, A.A.

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COUNTRY OF INFO--USSR

SOURCE--MOSCOW, SOVETSKAYA GEOLOGIYA, NO. 2, 1970, PP. 3-7

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--GEOCHEMISTRY, OCEAN, BOTTOM SEDIMENT, MARINE GEOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1990/0022 STEP NO--UR/0215/70/000/002/0003/0007

CIRC ACCESSION NO--AP0108410

UNCLASSIFIED

2/3 011 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0108410

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THIS REVIEW OF GEOCHEMICAL INVESTIGATIONS OF THE SEAS AND OCEANS THE AUTHOR NOTES THAT MANY NEW TYPES OF WORK AND RESEARCH ARE REQUIRED IN THE FIELD OF THE GEOCHEMISTRY OF ORGANIC MATTER AND NATURAL GASES IN OCEAN DEPOSITS. THERE MUST BE A DEEPER AND BROADER STUDY OF ORGANIC MATTER DOWN TO ITS MOLECULAR COMPOSITION WITH DETERMINATION OF DIFFERENT COMPONENTS. IN PARTICULAR, THERE MUST BE A DETAILED ANALYSIS OF THE HYDROCARBONS OF ORGANIC MATTER WITH DISCRIMINATION OF INDIVIDUAL GASEOUS AND LIQUID HYDROCARBONS RANGING FROM C SUB1 THROUGH C SUB15-18. THERE IS NEED FOR A DEEPER STUDY OF BITUMENS OF ORGANIC MATTER, AS WELL AS THE LIPID FRACTION, HUMIC SUBSTANCES, PIGMENTS AND OTHER COMPONENTS BOTH IN THE CROSS SECTION AND HORIZONTAL DIRECTION IN RECENT BOTTOM SEDIMENTS. IT IS IMPORTANT TO BEGIN A STUDY OF THE OPTICAL ACTIVITY OF COMPONENTS OF ORGANIC MATTER AND PARTICULARLY THOSE CONTAINING HYDROCARBONS. A CAREFUL STUDY MUST BE MADE OF THE COMPOSITION AND CONCENTRATION OF GASES IN DEEP ZONES (1.5-3 KM OR MORE). SUCH STUDIES MUST BE MADE IN DEFINITE AREAS, SUCH AS IN THE MIDOCEANIC RIDGES, ZONES OF DEEP FAULTS AND PLACES WHERE UNDERWATER VOLCANOES ARE PRESENT. STUDY OF THE ISOTOPIC COMPOSITION OF CARBON, SULFUR, NITROGEN AND OTHER ELEMENTS IN SEA AND OCEAN SEDIMENTS IS ALSO IMPORTANT. IN THE USSR THE PROBLEM OF THE PRACTICAL EXPLOITATION OF MARINE DEPOSITS OF PETROLEUM AND GAS, OTHER THAN IN THE CASPIAN SEA, IS BEING SOLVED VERY SLOWLY.

UNCLASSIFIED

3/3 011 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0108410

ABSTRACT/EXTRACT--THIS APPLIES, IN PARTICULAR, TO THE NORTHERN PART OF THE BLACK SEA, WHICH HAS ALREADY BEEN WELL EXPLORED BY GEOPHYSICAL METHODS, AND BALTIC SEA AND COASTAL ZONES OF THE SIBERIAN LOWLAND. THE TIME HAS COME TO USE UNDERWATER GEOCHEMICAL METHODS IN THE SEARCH FOR PETROLEUM AND GAS, PARTICULARLY A GAS SURVEY. OTHER ASPECTS OF GEOCHEMICAL INVESTIGATIONS IN THE SEAS AND OCEANS ARE ALSO DISCUSSED IN THIS ARTICLE, BUT BECAUSE OF ITS LIMITED LENGTH THE EXPOSITION TENDS TO BE SUPERFICIAL. FACILITY: INSTITUTE OF OCEANOLOGY, MOSCOW.

UNCLASSIFIED

The solution is applicable to a variety of physical problems which can be described by parabolic equations with movable boundaries. Extension of the solution to more complex bodies (an ellipsoid, a paraboloid, and a hyperboloid) is planned.

George, E. B., Yu. K. Rulev, G. F. Sipachev, and M. I. Yakushin. Experimental study of ablation boundary layer in specimens under simultaneous action of convective and radiative heat fluxes. MZhiG, no. 2, 1972, 25-29.

The ablation boundary layer in asbestos-reinforced plastic cylindrical specimens with a spherically blunted nose was studied in an air plasma jet produced by a high-frequency electrodeless discharge. The discharge generated a 37 mm diameter plasma jet at 1 kg/cm^2 pressure with Reynolds number of 100 and a 30 m/sec velocity. The plasma, boundary layer, and specimen emission spectra were recorded simultaneously on a photographic plate by means of an optical system including an ISP-51 prismatic spectrograph. Plasma jet interaction with the studied material was recorded by motion picture camera at a speed of one frame/second. A sharp boundary was detected between the specimen and the boundary layer. The visible emission spectrum of the latter exhibited characteristic lines of the elementary constituents of the original material. The boundary layer emission intensity in the 3838-6483 Å spectral range was comparable to or higher than that of the plasma. The temperature profile across the boundary layer (Fig. 1) was determined near the

UDC: 621.315.592

USSR

GEORGITSE, Ye. I., IVANOV-OMSKIY, V. I., KOLOMIYETS, B. T., MAL'KOVA, A. A., and SMEKALOVA, K. P., A. F. Ioffe Physico-Technical Institute, Leningrad

"Interaction of Hot Electrons and Phonons in $Cd_xHg_{1-x}Te$"

Leningrad, Fizika i tekhnika poluprovodnikov, No 7, 1972, pp 1283-1287

Abstract: Experiments are described for investigating the photoconductivity and photomagnetic effect in several $Cd_xHg_{1-x}Te$ alloys for the purpose of studying the peculiarities of heating electrons by light as well as the interactions of phonons and photoelectrons. The specimens, in which $0.15 \leqslant x \leqslant 0.24$, were n-type and were investigated at temperatures of 10 and 80° K in magnetic fields of up to 18 kOe. To avoid heating of the electron gas by the stationary field, the photoconductivity was measured in electric fields of no more than 0.1 V/cm intensity; all measurements were made under conditions of weak light signals $\Delta n \leqslant n_0$, where n_0 is the concentration of balanced electrons. Spectra for the photoconductivity and the photomagnetic effect are plotted and a table of parameters for various combinations of the $Cd_xHg_{1-x}Te$ formula is presented.

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USSR

GEORGITSE, Ye. I., et al, Fizika i tekhnika poluprovodnikov, No 7, 1972, pp 1283-1287

The method by which the measurements were conducted is explained in an earlier article (Ye. I. Georgitse, et al, FTP, 5, 1971, p 1765). The assistance of I. P. Polushchuk, graduate of Tbilisi University, is acknowledged.

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UDC 621.315.592

USSR

GEORGITSE, YE. I., IVANOV-OMSKIY, V. I., KOLOMIYETS, B. T., MAL'KOVA, A. A., SMEKALOVA, K. P.

"Fluctuations of the Photoconductivity in a Magnetic Field and the Photomagnetic Effect of $Cd_{0.20}Hg_{0.80}Te$ Alloy"

Leningrad, Fizika i Tekhnika Poluprovodnikov, Vol 6, No 3, 1972, pp 455-457

Abstract: A study was made of photoconductivity in a transverse magnetic field and the photomagnetic effect of $Cd_{0.20}Hg_{0.80}Te$ alloy at 10° K. The oscillatory nature of the spectra with a period depending on the magnetic field intensity was detected. The fluctuations of the photoelectric phenomenon are caused by quantum oscillations of optical absorption. The g-factor and effective mass of the electrons were estimated. Graphs are presented showing the photoconductivity spectra of the alloy for different magnetic field intensities. The oscillation period with respect to energy in the photoconductivity and photomagnetic effect spectra increases with the magnetic field. Therefore, they do not pertain to the phonon oscillations. The presence of oscillation peaks in the field functions indicates that the oscillations are caused by quantization of the energy spectrum of the electrons in the magnetic field. The oscillation period Δ 1/H is not constant, and, consequently, the oscillations cannot be

USSR

GEORGITSE, YE. I., et al., Fizika i Tekhnika Poluprovodnikov, Vol 6, No 3, 1972, pp 455-457

considered Shubnikov-de Haas or Gurevich-Firsov. It is proposed that the fluctuations of the absorption coefficient in the magnetic field are responsible for the observed peculiarities. The correspondence of the minimum photoconductivities to the maximum photomagnetic effect indicates the relation of the oscillations of the photoelectric phenomena of the alloy to the quantum oscillations of the optical absorption coefficient. Correspondence of the estimates of the g-factor and the effective electron mass with published data confirms the correctness of the assumptions with respect to the nature of the observed fluctuations. However, considering the measurement taken in non-polarized light, the results obtained do not permit a more complete analysis of the energy spectrum of electrons in a magnetic field.

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USSR

UDC 678.746

VARDOSANIDZE, TS. N., GVATUA, SH. SH., GEORGADZE, YE. Z., KAPANADZE, V. I., MUMLADZE, V. V., KHANEVICHEV, V. A., CHAVCHANIDZE, V. V., Corresponding Member of the Georgian Academy of Sciences SSR, CHAGULOV, V. S., and CHKHIKVISHVILI, L. V., Institute of Cybernetics, Academy of Sciences Georgian SSR

"Several Spectral Characteristics of Polystyrene Activated with Europium Chelate"

Tbilisi, Soobshcheniya Akademii Nauk Gruzinskoy SSR, Vol 63, No 3, Sep 71, pp 581-584

Abstract: The spectral characteristics of Eu^{3+} chelates have been investigated by a number of authors both in methylmetacrylate and in alcohol solutions. In this article the authors investigate samples of polystyrene doped with 0.02-2 Wt % europium benzoyl acetonate; the samples are 15 mm in diameter and 2 mm thick. They find that such a material exhibits a strong absorption in the region of 3000-4000 Å and the material of the base that is, polystyrene has strong absorption bands in the ultraviolet band of the spectrum; however, it is fully transparent from 3000 Å and up to 1.1μ . The luminescence and absorption spectra are graphically illustrated. The authors find that polystyrene is a successful base for europium benzoyl acetonate. The article contains 3 illustrations and 8 bibliographic entries.

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UDC: 621.396.967.004

USSR

AVER'YANOV, V. Ya., BAYRASHEVSKIY, A. M., GEORGIYANOV, K. V., TUPYSEV, A. N., YUKHOV, I. V.

"Marine Radar Stations and Their Use (Handbook). Vol. 3"

Sudovyye radiolokatsionnyye stantsii i ikh primeneniye. (Spravochnoye rukovodstvo). T. 3 (cf. English above), Leningrad, "Sudostroyeniye", 1970, 265 pp, ill. 1 r. 1 k. (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1G 73 K)

[No abstract]

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1/2 015 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--RETENTION TIME OF PENICILLIN IN INTESTINE OF GUINEA PIGS -U-

AUTHOR-(03)-TOSHKOV, A., ABRASHEV, I., GEORGIEV, D.

COUNTRY OF INFO--USSR

SOURCE--ANTIBIOTIKI, 1970, VOL 15, NR 5, PP 422-426

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PENICILLIN, GUINEA PIG, GASTROINTESTINAL SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/0143 STEP NO--UR/0297/70/015/005/0422/0426

CIRC ACCESSION NO--AP0114539

UNCLASSIFIED

2/2 015 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0114539

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IT WAS FOUND THAT IN GUINEA PIGS TREATED WITH PENICILLIN, THE LATTER WAS ACCUMULATED AND RETAINED IN THE INTESTINE TISSUES. DEPENDING ON THE DOSE, THE ANTIBIOTIC WAS RETAINED IN THE TISSUES OF THE INTESTINE FOR 2 TO 4 DAYS OR EVEN MORE IN SOME CASES. PENICILLIN RETAINED IN THE INTESTINE TISSUES INHIBITED THE GRAMMEGATIVE MICROFLORA FOR PROLONG PERIODS OF TIME AND PROVIDED CONDITIONS FOR MULTIPLICATION OF E. COLI WHICH CAUSED HEMORRHAGIC ENTEROCOLITIS. NO SUCH DISTRIBUTION OF PENICILLIN WAS OBSERVED IN ALBINO MICE, RATS AND RABBITS. FACILITY: INSTITUTE FOR MICROBIOLOGY OF BOLGARIAN ACADEMY OF SCIENCES, SOFIA.

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APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002200910013-3"

USSR

UDC 577.1

GEORGIYEV, G. P., Institute of Molecular Biology, Academy of Sciences USSR

"Regulation of the Synthesis of RNA in Animal Cells"

Moscow, Uspekhi Sovremennoy Biologii, Vol 69, No 3, May/Jun 70, pp 331-352

Abstract: The present status of the theory of regulation of RNA synthesis in cells is outlined in the light of experimental results in this field, including results of research conducted by the author. It is pointed out that the scheme of RNA synthesis in bacterial cells, based on the operon cannot be assumed to be unchanged in cells of higher organisms (specifically animal organisms), because these cells are not simple reaction vessels (as those of bacteria), but are subdivided by membranes. Much progress in the clarification of the operon was made in 1961-69. One of the principal problems to be solved pertains to the structure of operons of higher organisms. According to a hypothesis advanced by the author, which is supported by experimental data, the operon of eukaryots consists of two zones that are commensurate in size, the structural or informative, and the acceptor or non-informative zone. The operon of bacteria also contains an acceptor zone, but it is only 2-10% of the size of the operon. The larger acceptor zone of higher organisms is associated with a more diversified and precise replication process. An important aspect of research in this field is study of the role played by the proteins of DNP (deoxynucleoprotein complex) in regulation of RNA synthesis.

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USSR

UDC 591.105:612.015

GEORGIYEV, G. P., Institute of Molecular Biology, Academy of Sciences USSR

"Structure of the Operon and Some Aspects of Cancer"

Moscow, Priroda, No 3, 1971, pp 34-43

Abstract: The mechanism of malignant degeneration of normal animal cells is explained in the light of the structure of the operon, the elementary unit of transcription (biosynthesis of RNA). An essential stage in cell transformation initiated by DNA-containing viruses is the incorporation of the viral genome into the host genome. This viral DNA stimulates the synthesis of viral mRNA, resulting in the transcription of a portion of the viral DNA. The mRNA subsequently takes part in protein synthesis, resulting in some of the viral proteins being formed in the cell. Incorporation of the viral genome into the host genome causes some of the cells to undergo drastic reorganization. The normal regulation of DNA synthesis is impaired. The cells cease to react to familiar signals and begin to grow aggressively. An early manifestation of malignant transformation is the intensified synthesis of the enzymes responsible for the formation of DNA. The manner in which the viral genome alters the host genome is also explained in terms of the hypothesis of operon organization.

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Acc. Nr: AP0044689 Ref. Code: UR 0463

PRIMARY SOURCE: Molekulyarnaya Biologiya, 1970, Vol 4, Nr 1, pp 17-29

THE HYPOTHESIS ON THE STRUCTURAL ORGANIZATION OF OPERON AND REGULATION OF RNA SYNTHESIS IN THE ANIMAL CELL

Georgiyev, G. P.

Institute of Molecular Biology, Academy of Sciences, USSR, Moscow

The hypothesis on the structural organization of operons in the cells of higher organisms is described. It is postulated that the operon has a polycistronic nature and consists of two main zones. After the promoter a series of acceptror loci is located, which

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are the DNA sites specifically interacting with certain proteins, mainly with regulatory ones. Then is distal part of operon the structural and (or) regulatory cistrons are located. Different operons may contain identical acceptor loci, the most multiple loci being in the most proximal regions of operon (near the promotor). In RNA synthesis the whole operon is transcribed and giant D-RNA is formed. Then the replica from acceptor zone are destroyed and replica from structural genes are transferred into the cytoplasm (net mRNA). The binding of regulatory proteins to the acceptor loci blocks the movement of RNA polymerase along the operon and thus prevents the transcription of the structural genes. This model well explains a number of facts, particularly: 1) the formation of giant D-RNAs and their further cleavage; 2) the existence of two functional classes of D-RNA; 3) the existence of highly multiple DNA base sequences scattered across the genome as well as specific inhibition of the transcription of these multiple base sequences by histone f1. Some consequences from the hypothesis are described which allow to check it experimentally. In conclusion some general aspects of transcription regulation in the animal cells, the role of histones in the process, and the possible mechanism of cancerogenesis induced by DNA-containing viruses are discussed.

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USSR

UDC 669.14'24'26:621.17

POPOVA, L. V., LITVINENKO, D. A., NIKITIN, V. N., and GEORGIYEV, M. N., Central Scientific Research Institute of Ferrous Metallurgy

"Resistance of Low-Alloy Ni-Cr Steel to Crack Development"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 1, Jan 74, pp 60-62

Abstract: The effect of nickel and chromium in low-alloy normalized steel on resistance to crack development under impact loading was investigated where the nickel and chromium were not alloyed together in the same steel samples. The steel investigated contained (in %): 0.2 C, 0.2 Si, a.2 Mn and nickel contents of 0.59, 0.93, 1.80, and 2.40, and chromium contents of 0.30, 0.66, 1.40, and 2.20. Better combinations of strength and ductility properties were observed when Ni and Cr contents are less than 1%. Impact strengths were also better at the lower alloying contents, and the amount of ferrite and prelite was almost the same for these alloying component contents. As a result of the better ductility and lower tendency toward crack development for Ni contents of 0.6-0.8% and Cr contents of 0.5-0.7%, these steels are suitable for use under conditions of impact loads at positive temperatures, and of the two types of

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USSR

POPOVA, L. V., et al., Metallovedeniye i Termicheskaya Obrabotka Metallov, No 1, Jan 74, pp 60-62

steels, low-alloy chromium steel is recommended for use inasmuch as it is not as scarce as nickel. Four figures, one table, ten bibliographic references.

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USSR

UDC 539.4.01

GEORGIYEV, M. N., POPOVA, L. V., NIKITIN, V. N., LITVINENKO, D. A., Moscow

"Influence of Titanium on Ductility Properties of Low-Alloy Steel"

Kiev, Problemy Prochnosti, No 5, May, 1971, pp 98-100.

Abstract: The influence of titanium content in low-alloy normalized steel on its ductile properties is studied. It is demonstrated that alloying with 0.025 to 0.16% titanium causes a deterioration in ductile properties, while increasing the titanium content from 0.16 to 0.25% causes a significant increase in impact toughness, primarily by increasing the work of crack formation.

USSR UDC 669.141.241.2'4:620.178.2

GEORGIYEV, M. N., POPOVA, L. V., and GEORGIYEVA, I. YA., Scientific Research Institute of Automobile and Tractor Materials; Central Scientific Research Institute of Ferrous Metallurgy

"Tensile Characteristics of Quiescent and Boiling Steel"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 8, 1970, pp 66-67

Abstract: This short article describes experiments made with two laboratory melts, boiling and quiescent, the latter deoxidized by aluminum. A table of the chemical composition of both substances is given. The purpose of the deoxidation was to obtain a steel with a chemical composition akin to that obtained with silicon and manganese. Ingots of each alloy weighing 10 kg were forged into rods of square cross section, 14 mm on a side, and from these, specimens of standard form were made for shock bending, type I, in accordance with GOST standard 9454-60. The tensile strengths of the specimens in fracture under this shock treatment were also determined. Results of these tests are given in the form of curves of the tensile qualities of both steel types as functions of the temperature.

USSR

UDC 669.1.017.018.29.001.5

NIKITIN, V. N., LITVINENKO, D. A., POPOVA, L. V., and GEOGRIYEV, M. N.

"Influence of Molybdenum on Ductile Properties of Low-Alloy Steel"

Spetsial'nyye Stali i Splavy [Special Steels and Alloys--Collection of Works], No 77, Metallurgiya Press, 1970, pp 190-192

Translation: The influence of molybdenum on the tendency of low-alloy steel of the same basic composition (0.2% C, 0.2% Si, 1.3% Mn) toward brittle rupture in the normalized state is studied. It is demonstrated that alloying of this steel with molybdenum up to 2.0% causes continuous deterioration of a combination of ductile properties. 1 figure; 1 table; 6 biblio. refs.

1/1

1/2 022 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--EFFECT OF STRUCTURE AND MELTING PRACTICE ON THE TOUGHNESS OF 17GS STEEL -U-

AUTHOR--DOGADAYEVA, V.A., GEORGIYEV, M.N.

COUNTRY OF INFO--USSR

SOURCE--STAL' 1970, 30(1), 69-71

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--MANAGANESE STEEL, SILICON STEEL, METAL MELTING, TOUGHNESS, MECHANICAL PROPERTY, METAL CRACKING, RARE EARTH METAL, METAL HEAT TREATMENT, ALLOY DESIGNATION, METALLURGIC SLAG/(U)17GS MANGANESE STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1987/0156 STEP NO--UR/0133/70/030/001/0069/0071

CIRC ACCESSION NO--AP0103835

UNCLASSIFIED

2/2 022 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0103835

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HEATS CONTG. C 0.17-0.22, SI 0.43-0.60, MN 1.17-1.39, NI 0.06-0.36, CR 0.12PERCENT MAX. WERE TESTED FOR MECH. PROPERTIES AT MINUS 100 TO 100DEGREES IN THE HOT ROLLED, NORMALIZED, AND QUENCHED AND TEMPERED STATE, THERMAL TREATMENT FOLLOWING IN CERTAIN CASES THE TREATMENT OF STEEL WITH SLAG IN A LADDLE OR AFTER ADDN. OF RARE EARTH METALS. QUENCHING AND DRAWING AT 600DEGREES RESULTED IN HIGHEST MECH. PROPERTIES IN THE WHOLE RANGE OF TEMP. ALLOYING OR SLAG TREATMENT DID NOT IMPROVE THE RESULTS, THOUGH THE LATTER GREATLY INCREASED THE ENERGY OF INCIPIENT CRACK FORMATION.

UNCLASSIFIED

USSR UDC: 537.591.15

BETEV, B., GEORGIYEV, N., STAMENOV, Y., STANEV, T., YANMINCHEV, V., ASEYKIN, V. S., BOBOVA, V. P., KABANOVA, N. V., ROMAKHIN, V. A., Physics Institute of the Bulgarian Academy of Sciences; Physics Institute of the Soviet Academy of Sciences

"Concerning Some Characteristics of the Muon Component of Extensive Air Showers in Mountain Regions"

Moscow, Izvestiya Akademii Nauk SSSR: Ser. Fizicheskaya, Vol 37, No 7, Jul 73, pp 1484-1487

Abstract: The joint experiment of the Physics Institute of the Soviet Academy of Sciences and the Bulgarian Physics Institute on studying the muon component of extensive air showers was continued in 1971-1972 at the Tien-Shan complex installation. The spatial distribution function for the flux of muons with $E_\mu \geq 5$ GeV in the distance interval of 8-60 m, $\rho_\mu \approx r_\mu^{-0.89\pm0.04}$, as well as the number of muons as related to the number of electrons in the shower $N_\mu \sim N^{0.86\pm0.04}$ were found.

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USSR

UDC 621.31.003.1

GEORGIYEV, R. M.

"Initial Principles of Development of an Automated Dynamic Planning Subsystem (ASTP) for the Rayon Electric Power System RES"

Nauchn. tr. Mosk. inzh.-ekon. in-t (Scientific Works of Moscow Engineering-Economics Institute), 1970, vyp. 29, pp 69-73 (from RZh-Elektrotekhnika i Energetika, No 4, Apr 71, Abstract No 4 Ye71)

Translation: The conditions of development of an automated dynamic planning system in the electric power systems are described. The goals and basic functions of the automated system are formulated, and the sequence of operations to be followed in creating the automatic system is noted. The bibliography has 3 entries.

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GEORGIYEV, V. B.

"LUNOKHOD-1"

Chapter 7

DETERMINING GEOMETRIC DIMENSIONS AND DISTRIBUTION OF CRATERS TRAVERSED BY "LUNOKHOD-1" ON LUNAR SURFACE

B. I. Garin, A. K. Leonovich, F. P. Pavlov, V. B. Georgiyev, and P. S. Semenov

Measurement of the angles of longitudinal α and transverse γ tilting of the lunokhod body and continuous transmission of this telemetric information to the earth make it possible at any moment during a communications contact to determine the slope at the corresponding points of the lunar surface at the traversed path where the lunokhod is situated. In turn, measurement of the lunar surface slopes as a function of the traversed path, reduced to the trajectory of its movement, beginning at the time of descent from the lunar station landing stage.

Investigations have demonstrated that the dimensions of craters -- diameter D, depth H, slope steepness γ', height h wall and width λ of the wall, if one exists, as well as their position relative to the lunokhod movement trajectory, can be computed from the results of changes in S, α and γ with sufficient accuracy. For this purpose a method was developed for determining the dimensions of craters on the lunar surface traversed by the lunokhod on the basis of telemetric information from the sensors registering the lunokhod path, banking and fore-to-aft tilting.

The method has two modifications, geometric and analytic, the latter making it possible to solve the problem of determining the parameters of lunar craters with a digital computer and to ascertain the characteristics of lunar relief in campo with lunokhod movement.

Figure 43 shows the trajectory of lunokhod movement across a class-B crater at some distance from its center (a) and gives the results of measurements of fore-to-aft tilting α and banking γ of the lunokhod (b,c) obtained through telemetric channels from aboard the lunokhod, as well as depicting (solid line) the longitudinal profile of the lunar surface, situated beneath the center of the lunokhod, obtained by a graphic integration of the fore-to-aft tilting along the traversed path (d):

Translation of Russian-language monograph
Peredvizhnaya Laboratoriya na Lune
Lunokhod-1, 1971, slated to press 4 June 71
resp. editor Academician A. P. Vinogradov;
Nauka Publishing House, Moscow 128 pp.

JPRS 54,325
22 November 1971

USSR

UDC 541-67

KNUNYANTS, I. L., GEORGIYEV, V. I., GALAKHOV, I. V., RAGULIN, L. I., and NEYMYSHEVA, A. A.

"p-d-Conjugation in Phosphoryl and Thiophosphoryl Groups of Organophosphorus Compounds and Electron Screening of Phosphorus Atom Nucleus"

Moscow, Doklady Akademii Nauk SSSR, Vol 201, No 4, Dec 71, pp 862-865

Abstract: In the NMR spectra the H' protons on the methyl group of methylalkylthiophosphinic acid fluorides are less shielded than in case of methylalkylphosphinic acid fluorides. Substituting sulfur for oxygen in dialkylphosphinic acid chlorides and fluorides leads to different shifts in p^{31}. This difference is probably due to weak interaction of the sulfur atom in the p-d conjugation and change in the p-d conjugation in the phosphoryl group depending on substituents. Going from phosphine oxides to respective thiooxides is accompanied by slight changes in electronic density at the phosphorus atom shifting consequently the signal of P^{31} nucleus. In thiophosphorusorganic compounds the electronic density on the phosphorus atom depends on the inductive effect of the substituents. Therefore the magnitude of P^{31} shifts will increase with increased electronegativity of the substituents on the phosphorus atom. Decrease in the number of C-H bonds at the carbon

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USSR

KNUNYANTS, I. L., et al., Doklady Akademii Nauk SSSR, Vol 201, No 4, Dec 71, pp 862-865

atom located in the α-position in respect to the phosphorus results in a shift of the P^{31} signal towards a weaker filed, while the F^{19} signal shifts towards stronger fields. The shift in F^{19} signal is constant regardless of the length of the substituent hydrocarbon chain.

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UDC 669.71.4(088.8)

USSR

GEORGIYEV, V. M., and VLASOVA, T. G.

"Method of Degassing Metals and Alloys"

USSR Author's Certificate No 263146, filed 22 Sep 67, published 29 May 70 (from RZh-Metallurgiya, No 11, Nov 70, Abstract No 11 G123 P)

Translation: A method is proposed for degassing metals and alloys in the molten state by using ultrasound. In order to intensify the process, a constant electrical field is applied simultaneously to the melt, whereby the cathode is placed above the anode.

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USSR

UDC 669.141.241.2'4:620.178.2

GEORGIYEV, M. N., POPOVA, L. V., and GEORGIYEVA, I. YA., Scientific Research Institute of Automobile and Tractor Materials; Central Scientific Research Institute of Ferrous Metallurgy

"Tensile Characteristics of Quiescent and Boiling Steel"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 8, 1970, pp 66-67

Abstract: This short article describes experiments made with two laboratory melts, boiling and quiescent, the latter deoxidized by aluminum. A table of the chemical composition of both substances is given. The purpose of the deoxidation was to obtain a steel with a chemical composition akin to that obtained with silicon and manganese. Ingots of each alloy weighing 10 kg were forged into rods of square cross section, 14 mm on a side, and from these, specimens of standard form were made for shock bending, type I, in accordance with GOST standard 9454-60. The tensile strengths of the specimens in fracture under this shock treatment were also determined. Results of these tests are given in the form of curves of the tensile qualities of both steel types as functions of the temperature.

USSR UDC 615.217.4(Gangleronum).015.45:[612.115+612.128

GEORGIYEVA, S. A. and KORSHUNOV, G. V., Dept. of Human Physiology, Saratov Medical Institute

"Effect of Gangleron on the Hemocoagulation and Cholinesterase Properties of the Blood"

Moscow, Farmakologiya i Toksikologiya, No 5, Vol XXXIV, Sep-Oct 71, pp 591-593

Abstract: The effects of gangleron in doses of 3 mg per kg of body weight were observed in 98 rabbits. Hypocoagulative changes, and a rise in blood heparin level, were produced, and persisted up to 3 hours following administration of the drug; increase in whole-blood cholinesterase activity also appeared, and persisted for 3 or 4 hours or even longer. However, there were sharp differences between individual aminals as regards these effects.

It is concluded that there are close functional bonds between the hemocoagulation and the acetylcholine-cholinesterase systems, as is also suggested by the action of certain other drugs.

1/1

GEORGIYEVA V.R

Acc. Nr: AP0052504 Abstracting Service: CHEMICAL ABST. 5-70 Ref. Code: 4R0460

101153u **Polymerization of methyl methacrylate in the presence of sulfuric and phosphoric acids.** Vengerova, N. A.; Georgieva, V. R.; Zubov, V. P.; Kabanov, V. A.; Kargin, V. A. (Mosk. Gos. Univ. im. Lomonosova, Moscow, USSR). *Vysokomol. Soedin., Ser. B* 1970, 12(1), 46-50 (Russ). The photopolymn. of Me methacrylate (I) in the presence of H_2SO_4 or H_3PO_4 was studied at −10 to +100°. Polymn. in the I-H_2SO_4 system was initiated by uv light (λ = 313 mμ) without a sensitizer, whereas polymn. in the I-H_3PO_4 system was initiated by uv light without a sensitizer, as well as in the presence of benzil at λ = 365 mμ. The polymn. rates and the mol. wts. of poly(Me methacrylate) (II) increased with increasing I-acid ratio, presumably due to a chem. activation of the monomer or the propagating macroradical by the acids. Max. polymn. rate and mol. wt. of II were obtained in the presence of 80% H_2SO_4, suggesting that the chain termination rate const. varied in the presence of H_2SO_4. The polymn. rate of I in the presence of either acid obeyed the Arrhenius equation; the activation energy was 4.9 kcal/mole (in the presence of H_2SO_4) and 5.0 kcal/mole (in the presence of H_3PO_4). The microtacticity of II was essentially independent of the polymn. temp., indicating that the acid bound to the reactive center participated in chain propagation. CKJR

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REEL/FRAME
19821145

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1/2 020 UNCLASSIFIED PROCESSING DATE--090CT70
TITLE--EFFECT OF THE FORMATION OF ION PAIRS ON RADICAL HOMO AND COPOLYMERIZATION OF 2,METHYL,5,VINYLPYRIDINE AND
AUTHOR-(04)-GEORGYEVA, V.R., ZUBOV, V.P., KABANOV, V.A., KARGIN, V.A.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(5), 1128-31

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--POLYMERIZATION, PYRIDINE, VINYL COMPOUND, SULFATE, HETEROCYCLIC NITROGEN COMPOUND, METHANOL, COMPLEX COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/2013 STEP NO--UR/0020/70/190/005/1128/1131

CIRC ACCESSION NO--AT0112968

UNCLASSIFIED

2/2 020 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AT0112968

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE HOMOPOLYMN. RATE (UPSILON) OF 1,2,DIMETHYL,5,VINYLPYRIDINIUM METHYL SULFATE (I) AT 50DEGREES IN H SUB2 O,MEOH MIXTS. CONTG. (ME SUB2 CCN) SUB2 N SUB2 IS FASTER THAN THAT OF THE HOMOPOLYMN. OF ITS FREE BASE (II) UNDER THE SAME CONDITIONS. THE INCREASE IN MEOH CONCN. ABOVE 70PERCENT INCREASES THE UPSILON OF I SHARPLY. THE UPSILON OF II DECREASES LINEARLY WITH MEOH CONCN. THE COPOLYMN. REACTIVITY RATIOS (R SUB1 FOR II AND R SUB2 FOR I) ALSO CHANGE WITH THE SOLVENT COMPN. (SOLVENT, R SUB1, AND R SUB2 GIVEN): MEOH, 0.58, 0.98; 4:1 MEOH,H SUB2 O, 0.54, 0.42; 1:1 MEOH,H SUB2 O 0.30, 0.01. IN MEOH (OR MEOH RICH SOLNS.), A LARGE NO. OF THE GROWING MACRORADICALS FORMS IONIC PAIRS WITH MESO SUB4 PRIME NEGATIVE, WHICH DECREASES THE ELECTROSTATIC REPULSION BETWEEN THE PYRIDINE GROUPS IN THE TRANSITION COMPLEX III, I.E., INCREASES OF UPSILON OF I. FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

1/2 017 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--ISOMERS OF 1,3,5,TRINITRO,1,3,5,TRIMETHYLOLCYCLOHEXANE -U-

AUTHOR-(03)-GEORGIYEVSKAYA, G.D., BAGAL, L.I., BOLDYREV, N.D.

COUNTRY OF INFO--USSR

SOURCE--ZH. OPG. KHIM. 1970, 6(4), 731-2

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ISOMER, NITROBENZENE, SODIUM COMPOUND, BORON HYDRIDE, COMPLEX COMPOUND, CYCLOHEXANE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1951 STEP NO--UR/0366/70/006/004/0731/0732

CIRC ACCESSION NO--AP0125540

UNCLASSIFIED

2/2 017 UNCLASSIFIED PROCESSING DATE--13NOV70
CIRC ACCESSION NO--AP0125540
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE REDN. OF 1,3,5, TRINITROBENZENE WITH NABH SUB4 A COMPLEX IS FORMED (L. I. BAGAL, ET AL., 1969) WHICH REACTS WITH HCHO GIVING 2 ISOMERS OF THE TITLE COMPD. M. 180-1DEGREES (DECOMPN.) AND 190-200DEGREES (DECOMPN.). IT IS THOUGHT THAT 1 OF THE ISOMERS HAS TRIEQUATORIAL OR TRIAXIAL CONFORMATION AND THE OTHER DIEQUATORIAL AXIAL OR DIAXIAL EQUATORIAL CONFORMATION.
FAICLITY: LENINGRAD. TEKHNOL. INST. IM. LENSOVETS, LENINGRAD, USSR.

UNCLASSIFIED

Photoelectric Effect

USSR

UDC 621.383.52.029.6

GEORGIYEVSKAYA, Ye. A., ISTOMIN, A. N., KAMENSKIY, N. N., PRICHKO, Yu. V., FEDOTOV, Ya. A.

"High-Frequency Silicon Photodiodes With PIN-Junction Structure"

Moscow, Radiotekhnika i Elektronika, vol 16, No 11, Nov 71, pp 2232-2234

Abstract: Silicon photodiodes are described in which speed is increased at high inverse bias voltages by eliminating the diffusion time and reducing RC parameters. The diodes are made from high-resistance P-silicon (resistivity of 1 000-2 000 Ω·cm). Curves are given for the frequency response of the diodes for incident radiation on wavelengths of 0.63 and 0.91 μ at various supply voltages from 0 to 100 V. The spectral characteristics of the photodiode are given as well as a structural schematic. The proposed photodiodes can be used in high-quality optico-electronic equipment in combination with various radiation sources. Particularly promising is the use of these diodes in semiconductor devices in conjunction with gallium arsenide emitters. The authors thank M. Kh. Kollender for her assistance with preparation of the diodes. Two figures, bibliography of two titles.
1/1

1/2 023 UNCLASSIFIED PROCESSING DATE--13NOV7[illegible]

TITLE--CAVITATION EROSION OF SCREW PROPELLERS AND METHODS OF COMBATTING I[illegible]
-U-

AUTHOR--GEORGIYEVSKAYA, YE.P.

COUNTRY OF INFO--USSR

SOURCE--KAVITATSIONNAYA EROZIYA GREBNYKH VINTOV I METODY BOR'BY S NEY, LENINGRAD, SUDOSTROYENIYE, 1970, 120 PP

DATE PUBLISHED-------70

SUBJECT AREAS--MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--CAVITATION, EROSION CORROSION, SHIP PROPELLER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3006/0034 STEP NO--UR/0000/70/000/000/0001/0120

CIRC ACCESSION NO--AM0133915

UNCLASSIFIED

2/2 023 UNCLASSIFIED PROCESSING DATE--13NOV7(

CIRC ACCESSION NO--AM0133915

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TABLE OF CONTENTS. INTRODUCTION 3. CHAPTER I CONTEMPORARY CONDITIONS OF INVESTIGATIONS IN AREA OF EROSION 6. II PARAMETERS, DETERMINING DEVELOPMENT OF EROSION 23. III CALCULATION OF LOCATION OF SOURCES OF EROSION AND INTENSITY OF THEIR DEVELOPMENT 54. IV EROSION OF FULL SCALE SCREW PROPELLERS AND METHODS OF REDUCING ITS INTENSITY 83. LITERATURE 117. IN THE BROCHURE WERE SYSTEMATIZED THE RESULTS OF INVESTIGATIONS BY DOMESTIC AND FOREIGN SCIENTISTS OF THE MECHANISM FO EROSION DAMAGES. IT WAS WRITTEN FOR SPECIALISTS OF DESIGN CONSTRUCTION AND SCIENTIFIC RESEARCH ORGANIZATIONS OF THE SHIPBUILDING INDUSTRY AND MAY BE USEFUL TO POST GRADUATES AND STUDENTS OF SHIPBUILDING COLLEGES AND FACULTIES.

UNCLASSIFIED

GEORGIYEVSKIY, A.S.

Medicine

UDC: 614:355(049.3)

MILITARY SOCIAL HYGIENE OR WARTIME SOCIAL HYGIENE?

[Article by A.S. Georgiyevskiy, Doctor of Medical Sciences; Moscow, Sovetskoye Zdravookhraneniye, Russian, No 8, 1971, submitted 6 April 1971, pp [illegible]]

In the article by Professor G.K. Gavrilov entitled "Formation and Objectives of Military Social Hygiene,"* an exceptionally important and burning issue is raised. War, as a social phenomenon, involves profound changes in living conditions for the population of the nations involved in the war, and they have a very substantial effect on national health. This effect on health of the population, on its reproduction, and natural movement has been clearly shown by the sanitary sequelae of the first and second world wars.

There is no doubt that the adverse changes in national health caused by war, in their scope and far-reaching consequences, can in no way be compared with the effect of other social phenomena and processes. War leads to the eradication of a certain part of a society's productive forces, of its colossal material and spiritual assets, thus causing a marked deterioration in living conditions for broad masses and consequent lowering of national health. The sanitary sequelae of such changes are not of brief duration. Quite often, as confirmed by demographic statistics, they affect the reproduction and health of subsequent generations. And, while the sociohygienic changes generated by the last two world wars already had such far-reaching consequences with regard to national health, it would be difficult even to imagine the effect of another world war (if it is unleashed by the aggressive forces of imperialism) which would inevitably be related to the wide use of modern weapons of mass destruction.

The author of that article is right in maintaining that, at the present level of development of military technology and weapons, the very burning issue has emerged of preserving "the genetic foundations of the nation." If there is another world war, the question arises not only of the inevitability of a catastrophic deterioration of national health but also of saving civilization and organized human society on earth as such.

For this reason investigation of sociohygienic problems generated by

*Sov.Zdravookhr. (Soviet Public Health), No 2, 1971.

GEORGIYEVSKIY, A.S.

CHAIRMAN Terminological Group of the Military Medical Academy

COLEEN

SO: JPRS 53272
02 JUN 71

UDC: 616-092:001.4

THE TERMS 'DISEASE' AND 'SYNDROME' AND THEIR DEFINITION

[Article by A.S. Georgiyevskiy (Moscow), Scientific research terminological group, USSR Academy of Medical Sciences; Moscow, Voyenno-Meditsinskiy Zhurnal, No 4, April 1972, pp 50-53]

Controversy still exists in the definition of many of the basic concepts in pathology and clinical medicine. Yet we all need to have distinct definitions of scientific concepts consistent with the present level of knowledge. Obviously, with the passage of time, changes occur in the content of scientific concepts in accordance with changes in social structure and in philosophical views and natural scientific conceptions.

It is apparent that during the periods of prevalence of Rokitanskiy's humoral pathology, then of Virchow's cellular pathology, and then of the theory of nervism of I.M. Sechenov, S.P. Botkin, and I.P. Pavlov, such terms as "health," "disease," etc, could not retain unchanging definitions. No one will deny the fact that it is rather difficult to define "disease." It is not in vain that it is stated in the first edition of the Great Medical Encyclopedia that "Disease is a concept that is difficult to define" (S.G. Levit). In the "Introduction to General Pathology" (quoted by A.I. Strukov and K.D. Shterm) published in 1959 under the editorship of the well-known pathologists, Buchner, Letterer (FRG) and Roulet (Switzerland), it is stated that in view of the difficulties involved in clearly defining disease one has to be limited only to Aschoff's brief definition: "disease is an impairment of functions as a result of which life is endangered" (p 5).

The simplest definition of disease ("impairment of normal vital activity of an organism") is found in the Dictionary of the Russian Language.

Nor is there any doubt that the term "syndrome" which is presently being used more and more in different branches of clinical medicine is even more difficult to define, particularly because it is accompanied by the

*Published for the sake of discussion.

"set of symptoms." Many believe the latter to be synonymous with "syndrome." As for syndromes, they number over 1,500 at least. Due to the need to systematize medical terminology we sent out questionnaires to prominent representatives of our medicine in order to determine how great is the divergence of opinions on this score.

We pursued the study in three stages. First we made a study of the definitions of disease in different sources. And, for the questionnaire, it was decided to choose the most typical definitions without determining their number by referring to obsolete treatises and textbooks, as well as the foreign literature. At this same stage, the questionnaire, in which were printed definitions of the terms "disease," "syndrome," "sickness," "set of symptoms," "symptom," "phenomenon," was sent to the Terminological Group of the Military-Medical Academy (mem. S.M. Kirov (group chairman) A.S. Georgievskiy). As a result of discussing the questionnaire there, the preliminary "Military-Medical Academy opinion" of the group was received. The choice of this group of the most of the professors and instructors at the Academy are graduates of this same institution, and the traditions of their prominent teachers, S.P. Botkin, I.P. Pavlov, and others could not help but leave a trace in forming their views.

The next stage consisting of sending out questionnaires in which selected typical definitions were printed, starting with the definitions of V. Kagramanov (1969).

Thus, the questionnaire consisted of definitions taken from: 1) the classics; 2) contemporary encyclopedias and textbooks; 3) recent journal articles; 4) the preliminary opinion of the Terminological Group of the Military-Medical Academy.

Here is the roster of scientists from whom answers were received: A.I. Arutyunov, A.F. Blibin, V.I. Voyachek, N.N. Gorev, V.N. Zhdanov, G.A. Zedgenidze, I.A. Kassirskiy†, L.S. Persianinov, A.I. Savitskiy, N.N. Savitskiy, S.A. Sarkisov, A.I. Serebrov, A.V. Snezhnevskiy, A.F. Tur, F.G. Uglov, A.N. Filatov, D.F. Chebotarev, N.A. Shmelev, Ye.V. Shmidt, M.A. Yashnovskiy, K.N. Zhmakin, S.D. Nomov, and a group of professors from the Institute of Pediatrics, USSR Academy of Medical Sciences, A.G. Gukasyan and E.N. Vantsyan (Institute of Clinical and Experimental Surgery, USSR Ministry of Health). In addition, a questionnaire was returned by a professor who wished to remain anonymous.

We wish to thank all of the above individuals for their kind responses to our survey.

†Deceased.

USSR

UDC 533.92:621.039.61

ALEKSIN, V. F., BIRYUKOV, O. V., VISHNEVETSKIY, V. N., GEORGIYEVSKIY, A. V., GROT, Yu. I., DIKIY, A. G., ZISER, V. Ye., KITAYEVSKIY, L. KH., KONOTOP, P. I., POGOZHEV, D. P., PELETMINSKAYA, V. G., SERGEYEV, Yu. F., SMIRNOV, V. G., SUPRUNENKO, V. A., TOLOK, V. T., and TARAN, V. M.

"Development and Synthesis of the "Uragan" Stellarator and Investigation of Magnetic Surfaces of High Shear"

Kiev, Fizika Plasmy i Problemy Upravlyayemogo Termoyadernogo Sinteza (Plasma Physics and Problems in Controlled Thermonuclear Synthesis -- collection of works) "Naukova dumka," No 3, 1972, pp 73-112

Abstract: After an initial section devoted to a review of the literature on the magnetic surfaces of toroidal stellarators and the principles of stellarators in general, the authors analyze the "Uragan" specifically. In particular, this paper is concerned with the problems involved in choosing the parameters of the magnetic system for the racetrack stellarator to obtain magnetic surfaces with high shear. This last term is defined as the extent of crossing of the magnetic lines of force. The synthesis and adjustment of the magnetic system are also examined, and

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APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R002200910013-3"

USSR

ALEKSIN, V. F., et al., Fizika Plasmy i Problemy Upravlyayemogo Termoyadernogo Sinteza, "Naukova dumka," No 3, 1972, pp 73-112

the results are given of an investigation into the instrument's magnetic surfaces. Computations worked out on an electronic computer for the design of the magnetic system are described, and differences between the "Uragan" and the "Sirius" stellarators are indicated. A comparative table of the parameters for various types of stellarator is given; it shows that the "Uragan" is one of the more powerful thermonuclear machines, with a high shear value for its substantial 10 koersted magnetic field intensity. This article is liberally illustrated with photographs and line drawings and has a bibliography of 51 titles.

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UDC 533.92:621.039.61

ALEKSIN, V. F., BIRYUKOV, O. V., VISHNEVETSKIY, V. N., GEORGIYEVSKIY, A. V., GROT, Yu. I., DIKIY, A. G., ZISER, V. Ye., KITAYEVSKIY, L. Kh., KONOTOP, P. I., POGOZHEV, D. P., PELETMINSKAYA, V. G., SERGEYEV, Yu. F., SMIRNOV, V. G., SUPRUNENKO, V. A., TOLOK, V. T., TARAN, V. M.

"Development and Production of the Magnetic System of the 'Uragan' Stellarator and a Study of Magnetic Surfaces With Large Sheer"

Fiz. plazmy i probl. upravl. termoyader. sinteza. Resp. mezhved. sb. (Plasma Physics and Problems of the Controlled Thermonuclear Fusion. Republic Interdepartmental Collection), 1972, No. 3, pp 73-112 (from RZh-Fizika, No 11, Nov 72, Abstract No 11G279)

Translation: This paper concerns the study of the magnetic system of the three-loop "Uragan" stellarator-racetrack. Considerations concerning the selection of optimal parameters of the magnetic system of the stellarator are discussed. The equipment of the "Uragan" is briefly described. An experimental study of the magnetic surfaces made with the aid of low-energy electron beams showed that in the "Uragan" stellarator-racetrack with

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ALEKSIN, V. F., et al, Fiz. plazmy i probl. upravl. termoyader. sinteza. Resp. mezhved. sb., 1972, No. 3, pp 73-112

individually controlled cylinders there are closed magnetic surfaces with high sheer values (~0.09) and angle of rotational conversion (~240°). The experimental data are compared with calculated values obtained on the BESM-6 computer.

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UDC 621.039.623

ALEKSIN, V. F., BIRYUKOV, O. V., GEORGIYEVSKIY, A. V., KITAYEVSKIY, L. KH., KOMAR, YE. G., LUGINOV, A. S., MALYSHEV, I. F., MONOSZON, N. A., POPKOVICH, A. V., ROZHDESTVENSKIY, B. V., SAKSAGANSKIY, G. L., SINEL'NIKOV, the late K. D., SOKOLOV, YU. A., SUPRUNENKO, V. A., TOLOK, V. T., CHURAKOV, G. F., and SHABEL'NIKOV, L. A.

"The Experimental Thermonuclear Device 'Uragan'"

Moscow, Atomnaya Energiya, Vol 28, No 1, Jan 70, pp 22-28

Abstract: An urgent task of stellarator research is a definitive elucidation of the reasons for anomalous diffusion in a stellarator, as well as the effect of the shear and magnetic well on the confinement of a hot and dense plasma. These questions will be studied on the "Uragan" stellarator. Construction of the "Uragan" stellarator was begun at the suggestion of I. V. KURCHATOV and completed in 1967. The physical substantiation and technical assignment of developing and constructing the complex were developed at the Physicotechnical

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ALEKSIN, V. F., et al., Atomnaya Energiya, Vol 28, No 1, Jan 70, pp 22-28

Institute of the Academy of Sciences Ukrainian SSR under the direction of K. D. SINEL'NIKOV, who took an active part in the solution of theoretical and technical questions. Organizations taking part in the development of the project and the construction of the complex included the Scientific Research Institute of Electrophysical Equipment imeni D. V. Yefremov, the Elektrosila Electrical Engineering Combine, the Khar'kov Polytechnic Institute imeni V. I. Lenin, the Electromechanical Plant and NIIElektroapparat [Scientific Research Institute of Electrical Equipment] in Khar'kov. A considerable amount of work on the development, manufacture, and adjustment of the systems and components of the "Uragan" was done at the Physicotechnical Institute of the Academy of Sciences Ukrainian SSR.

The principal feature of the "Uragan" is high shear (of the order of 0.02 and 0.1) at a high level of magnetic field strength

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ALEKSIN, V. F., et al., Atomnaya Energiya, Vol 28, No 1, Jan 70, pp 22-28

H_0 (35 and 10 koe respectively). The stellarator is in the shape of a racetrack and uses a high-shear triplex helical field. The vacuum chamber of the trap consists of two semi-tori with an average radius R = 1100 mm and two rectilinear sectors, each 1725 mm long. The internal diameter of the chamber is 200 mm. On the outside of the chamber on the toroidal sectors are two helical windings and longitudinal magnetic field coils, distributed evenly along the device. The maximum strength of the magnetic field is 10 koe under steady-state conditions and 35 koe under pulsed conditions. Three windings are used; viz., longitudinal magnetic field, helical, and transverse magnetic field. All metallic elements are made of low-magnet steel 1Kh18N9T. The toroidal sectors of the vacuum chamber and part of the rectilinear sectors are made of stainless nonmagnetic alloy EP-125. The article gives a detailed description of the windings, cooling system, electric power supply system, vacuum system, and plasma diagnostic and heating system.

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1/2 016 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--EXPERIMENTAL THERMONUCLEAR DEVICE URAGAN -U-

AUTHOR-(03)-ALEKSIN, V.F., BIRYUKOV, O.V., GEORGYEVSKIY, A.V.

COUNTRY OF INFO--USSR

SOURCE--AT. ENERG. (USSR); 28: 22-8 (JAN 1970)

DATE PUBLISHED----JAN70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--HIGH TEMPERATURE PLASMA, PLASMA CONFINEMENT, STELLARATOR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1979/1816 STEP NO--UR/0089/70/028/000/0022/0028

CIRC ACCESSION NO--AP0048119

UNCLASSIFIED

2/2 016 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0048119

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CONSTRUCTIVE AND TECHNOLOGICAL FEATURES OF THE STELLARATOR "URAGAN" AND EXPERIMENTAL APPARATUS FOR HIGH TEMPERATURE PLASMA CONFINEMENT RESEARCH ARE DESCRIBED.

1/2 009 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--DETERMINATION OF FLAVOID COMPOUNDS. I. ANALYSIS OF FLAVONOLS OF THE KAEMPFEROL AND QUERCETIN GROUPS IN DIMETHYLFORMAMIDE -U-
AUTHOR-(03)-GEORGIYEVSKIY, V.P., SENNIKOV, G.A., LITVINENKO, A.L.

COUNTRY OF INFO--USSR

SOURCE--FARM. ZH. (KIEV) 1970, 25(1), 79-84

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PROCESSED PLANT PRODUCT, KETONE, POTENTIOMETRIC TITRATION, SOLVENT EXTRACTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/1157 STEP NO--UR/0491/70/025/001/0079/0084

CIRC ACCESSION NO--AP0130185
UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--27NOV70

2/2 009

CIRC ACCESSION NO--AP0130185

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FOLLOWING PROCEDURE WAS DEVELOPED FOR THE POTENTIOMETRIC DETN. OF KAEMPFEROL, KAEMPFEROL 3 RHAMNOSIDE, QUERCETIN 3 ARABINOSIDE, QUERCETRIN, RUTIN, ROBININ, KAEMPFEROL 3,7 DIRHAMNOSIDE (I), QUERCETIN 3 RHAMNOSIDE, QUERCETIN 3 GALACTOSIDE, AND DIHYDROQUERCETIN: DISSOLVE A SAMPLE (SIMILAR TO 0.02 OR SIMILAR TO 0.03 G FOR AGLYCONS AND GLYCOSIDES, RESP.) IN 30 ML HCONME SUB2, NEUTRALIZE THE SOLN. IMMEDIATELY BEFORE TITRN. WITH 0.05N ET SUB4 NOH IN C SUB6 H SUB6 MEOH (4:1), AND TITRATE WITH THIS REAGENT IN A SYSTEM COMPRISING A GLASS ELECTRODE AND SCE. THE CONTENT OF AGLYCONS WAS ASSESSED FROM THE 3RD POTENTIAL JUMP, THAT OF MONOSIDES, RUTIN, AND ROBININ FROM THE 2ND, AND THAT OF I FROM THE 1ST. THE ERROR OF THE DETN. WAS PLUS OR MINUS 1-3PERCENT. THE FLAVONOIDS BEHAVE IN HCONME SUB2 MEDUIUM AS ACIDS OF DIFF NT STRENGTH AND BASICITY.

FACILITY: KHARKOV SCI.-RES. CHEM.-PHARM. INST., KHARKOV, USSR.

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